GO/Fe3O4@SiO2 core—shell nanocomposite modified graphite screen-printed electrode for sensitive and selective electrochemical sensing of dopamine and uric acid

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Fig. 1S. FT-IR of a) GO-COOH, b) GO/Fe₃O₄ and c) GO/Fe₃O₄@SiO₂



Fig. 2S. EDAX of GO/Fe $_3O_4$ (@SiO $_2$ nanocomposites



Fig. 3S. Electro-oxidation of dopamine (A) and uric acid (B) at the $GO/Fe_3O_4@SiO_2/SPE$.



Fig. 4S Cyclic voltammograms of $GO/Fe_3O_4@SiO_2/SPE$ in 0.1 M PBS (pH 7.0) containing 400.0 μ M dopamine at various scan rates; numbers 1-19 correspond to 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 600, 700, 800, 900 and 1000 mV s⁻¹, respectively. (B) Variation of anodic and cathodic peak current vs. v^{1/2}.



Fig. 5S. Cyclic voltammograms of GO/Fe₃O₄@SiO₂/SPE in 0.1 M PBS (pH 7.0) containing 70.0 μ M uric acid at various scan rates; numbers 1-11 correspond to 10, 20, 40, 60, 80, 100, 200, 400, 600, 800 and 1000 mV s⁻¹, respectively. Inset: Variation of anodic and cathodic peak current vs. v^{1/2}



Fig. 6S. DPV of bare SPE in 0.1 M PBS (pH 7.0) 500.0 μ M of dopamine and 200.0 μ M of dopamine.